



Norwegian Centre for  
E-health Research

# PraksisNett: a research infrastructure for clinical research in health institutions

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# Norwegian general practice



**15 mill.**  
consultations annually

**70%**  
visit their GP each year

Huge potential for research

Lack of research infrastructure

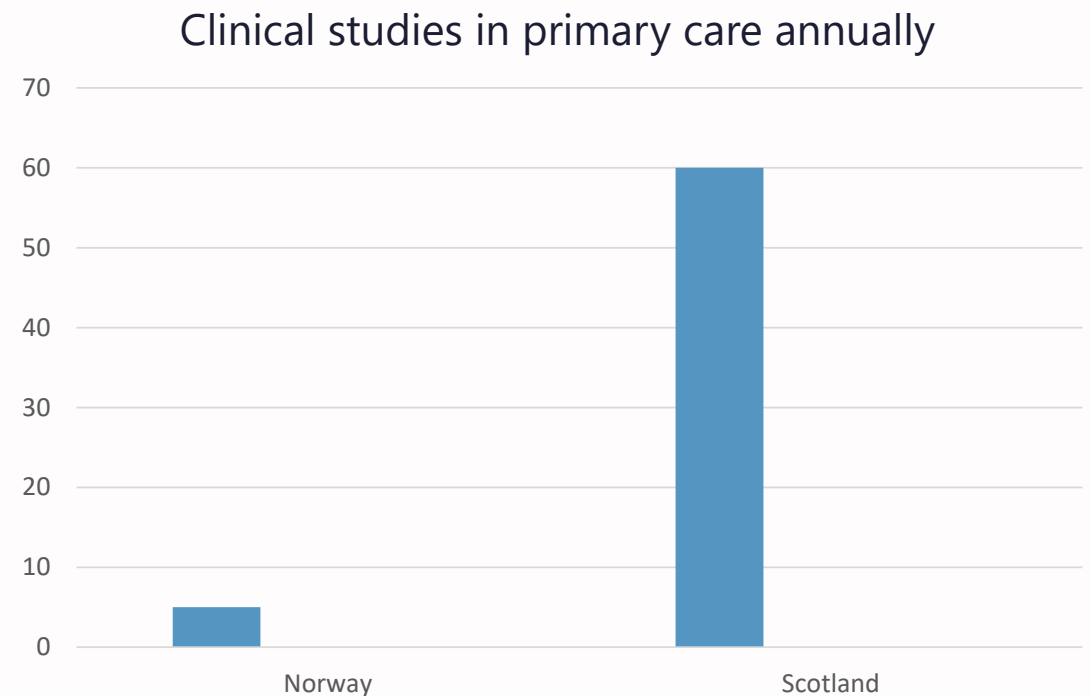
Photographer: Rune Eraker  
From 'Bilder fra klinisk praksis'

**The reality:** few clinical studies performed in GP practices in Norway

**Solution:** The Norwegian Primary Care Research Network

**Goals:**

- More and better clinical studies
- Better use of data





# What is PraksisNett?

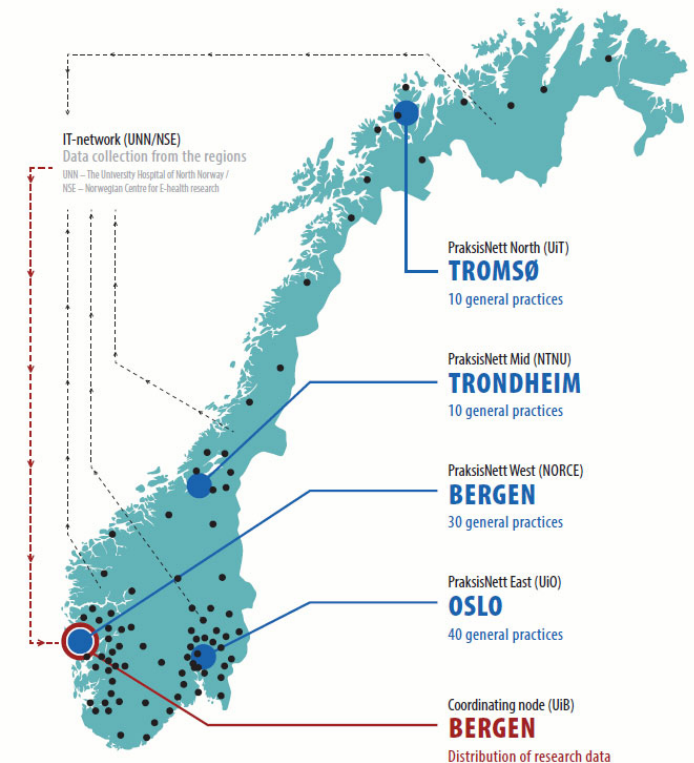


90 GP offices

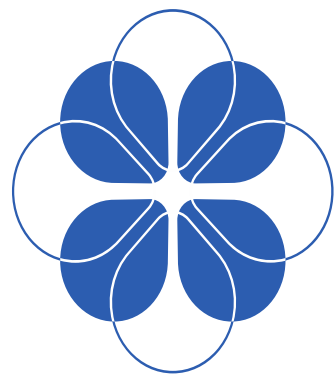
## Service based infrastructure



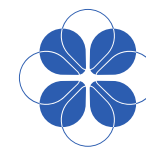
## Digital infrastructure



Provide access to patients, physicians, health data and a computing platform for distributed statistical processing



PRAKSISNETT



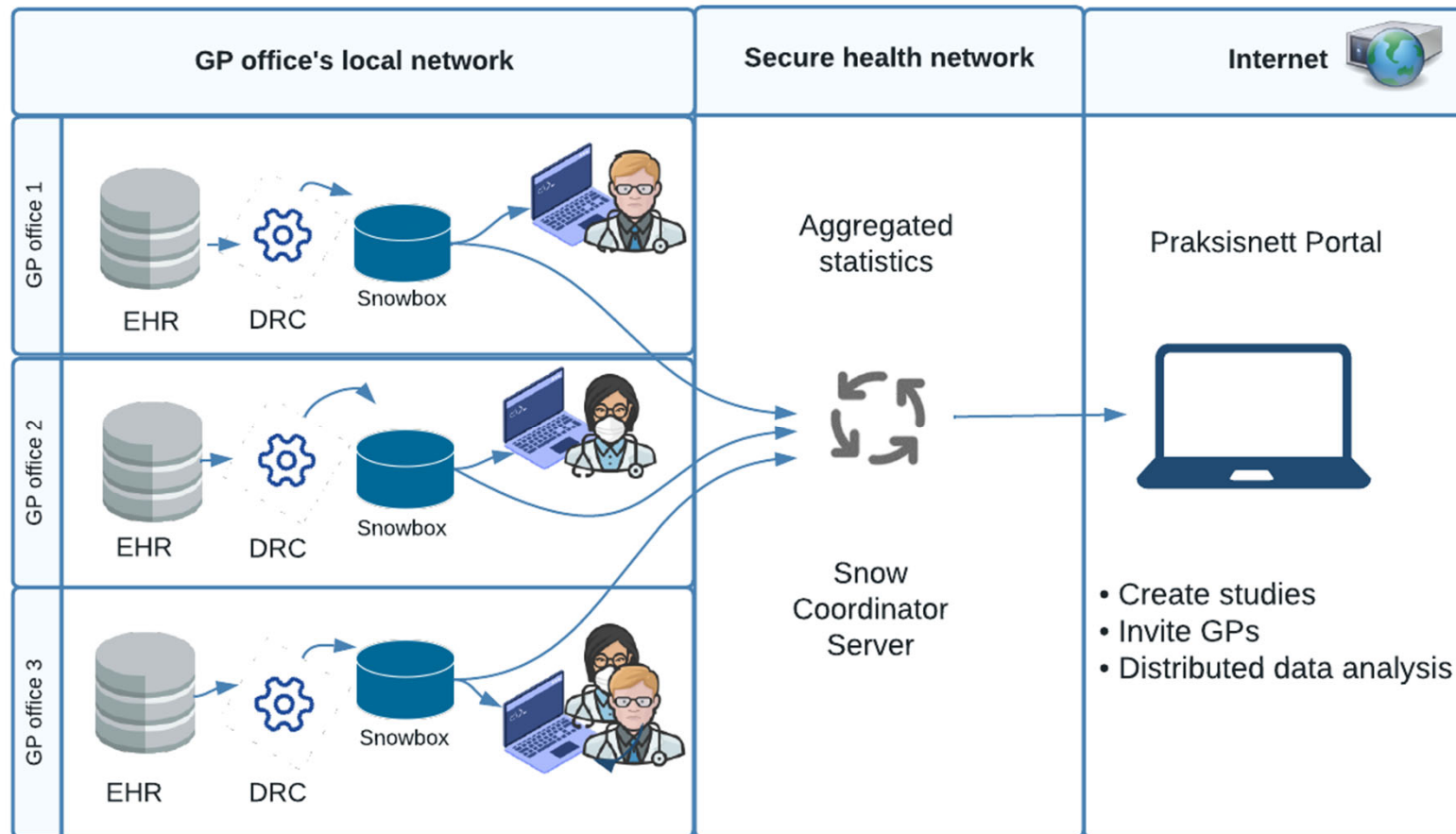
PRAKSISNETT







# IT architecture of the infrastructure





# The Snow box – why a physical server?

- Minimizing the risk of affecting the stability of the EHR server software through software updates
- Isolation of
  - responsibility for information security
  - computing resources

**The snow box**





# The Snow box – why a physical server?

- Standardised OS platform.
- Standardization of solutions for
  - Remote system management (avoid costs for the GP office)
  - system monitoring
  - system configuration
  - virus detection
  - software update
  - system logging
- Reduced risk for the practice:
  - Pseudonymised and encrypted EHR data reduce the consequences of cyber-attacks
  - System administrators don't have access to identifiable patient data

**The snow box**







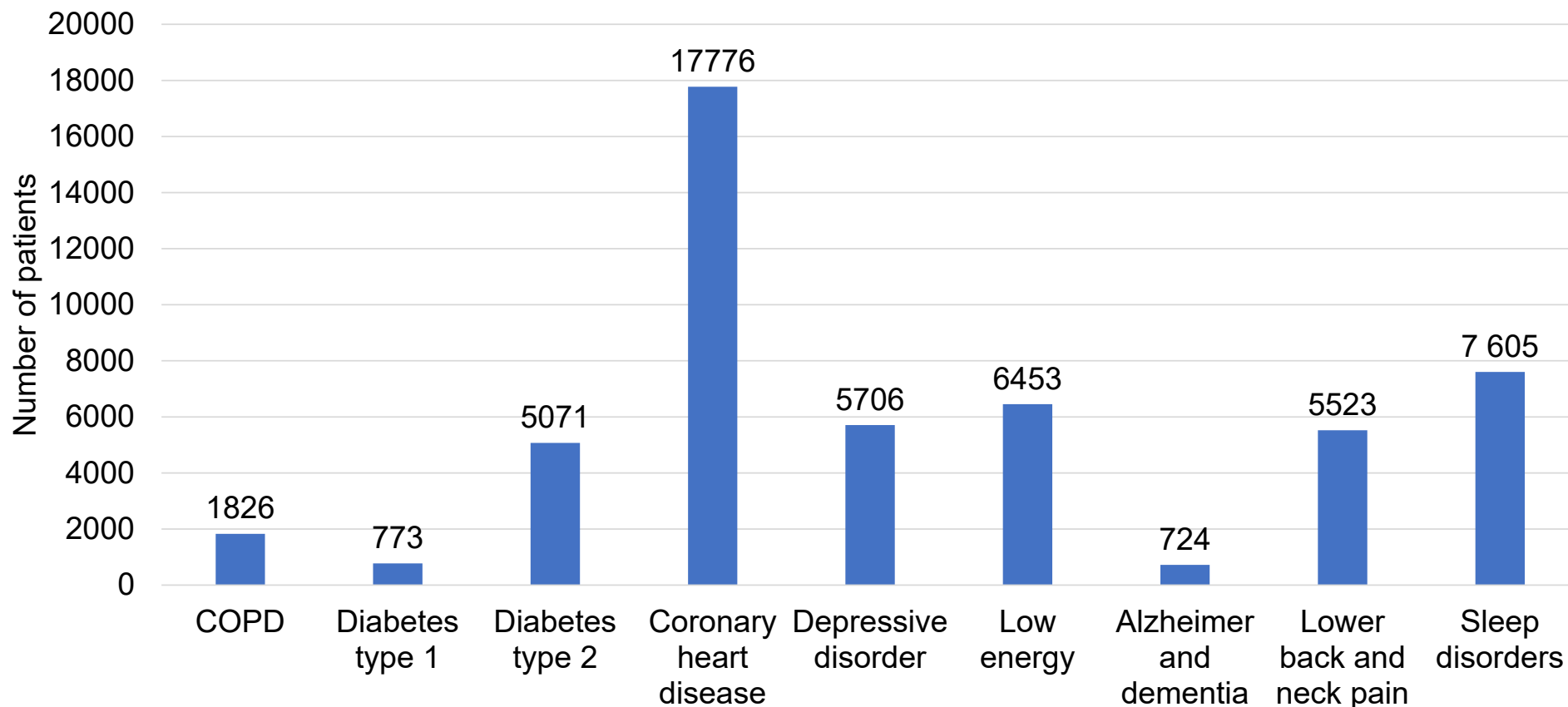
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# Examples of data provided by the infrastructure



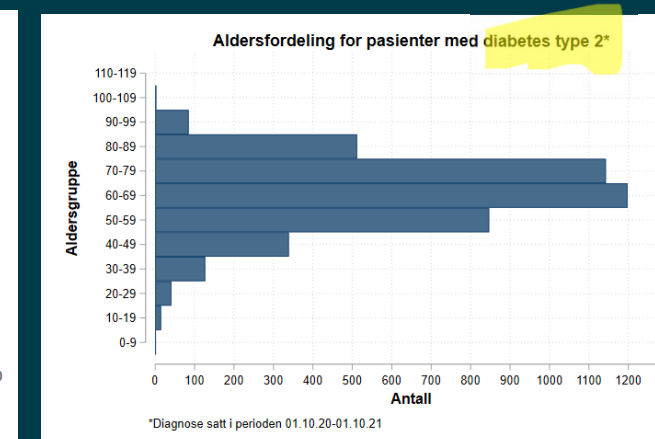
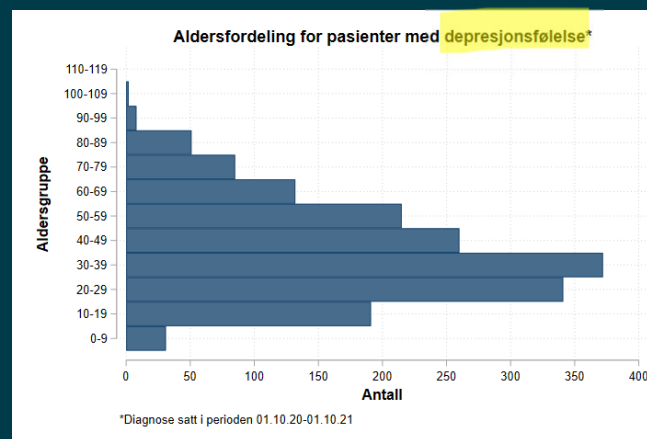
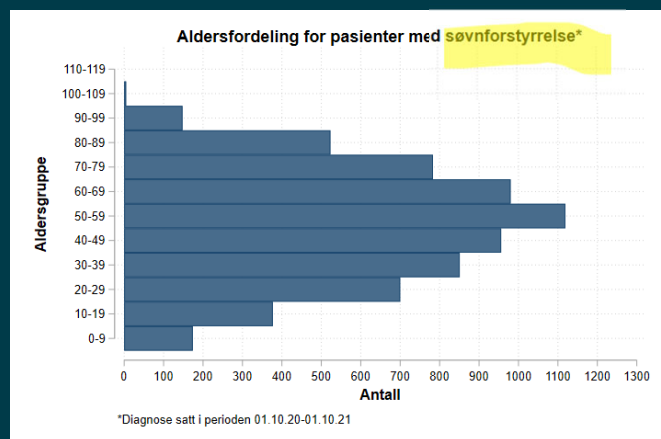
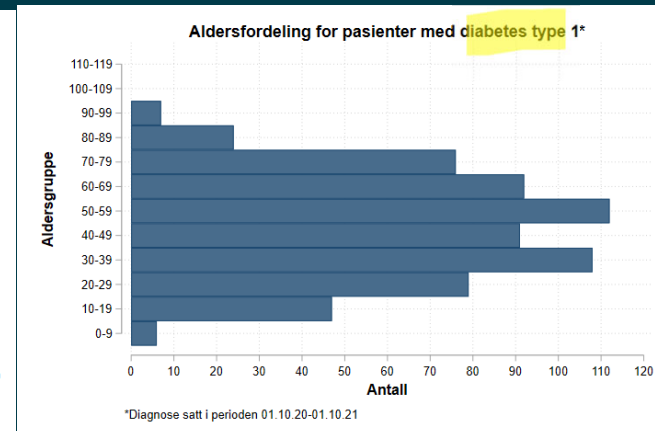
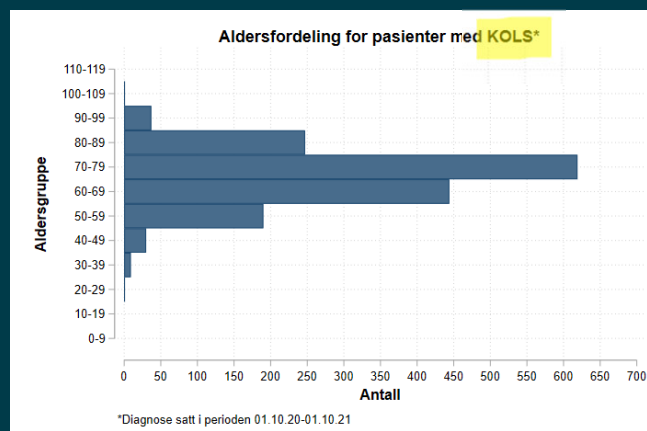
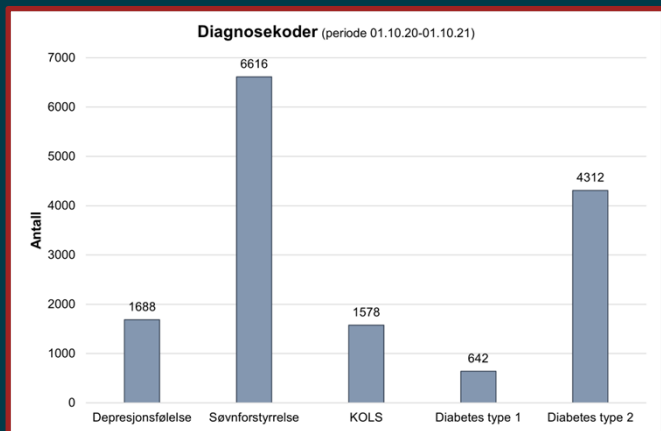


## Number of patients by diagnosis (diagnosis registered in 2021)

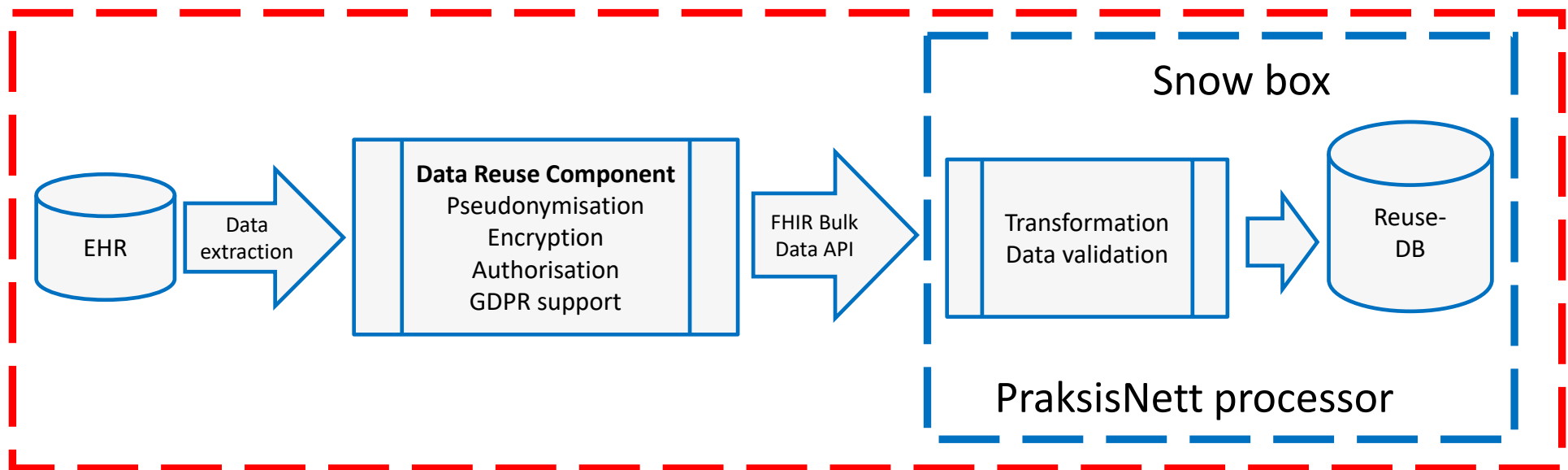




# Data about PraksisNett patients



# Legal framework



GP practice – data controller

# Why do we want to use distributed computations across Snow boxes?

Distributed computations provide new opportunities:

- Less legal demands. Each institution is responsible for their own data and have the right to process it. An agreement with the institution is sufficient to proceed.

GDPR obligation	Identified Data	Pseudonymous Data	Anonymous Data
Notifying data subject about collecting data	Required	Required	Not required*
Obtaining consent	Required	Required	Not required*
Ability to exercise right to erasure	Required	Not required**	Not required
Ability to exercise right to access	Required	Not required**	Not required
Ability to exercise right to data portability	Required	Required***	Not required
Ability to exercise right to data rectification	Required	Not required**	Not required
Ability to exercise right to object	Required	Not required**	Not required
Processing pre-GDPR data	Not allowed	Not allowed	Allowed
Presenting basis for cross-border transfer	Required	Required	Not required
Protection by design	Not met	Partially met	Partially met
Data breach notification	Required	Depends on the method****	Not required
Data retention limitation	Required	Required	Not required
Documentation obligation	Required	Required	Not required
Singing a data processing agreement with a vendor	Required	Required	Not required
Applying the data minimization principle	Advisable	Advisable	Advisable



- Videolink: <https://youtu.be/fV1EZdK1bjw>



Thank you for your attention!

Questions?